

CLAIMS

What is claimed is:

1. A method for installing a seal in a bearing assembly, the method comprising  
5 the steps of:

forming an annular interface in a bearing ring;  
positioning a seal member adjacent to the annular interface; and  
crimping the seal member to deform a portion of the seal member into the annular  
10 interface.

2. The method of claim 1, wherein the bearing assembly includes an inner ring,  
an outer ring, and a plurality of bearing elements disposed between the inner and outer  
rings, and wherein the annular interface is formed in the outer ring.

3. The method of claim 1, wherein the bearing assembly includes an inner ring,  
an outer ring, and a plurality of bearing elements disposed between the inner and outer  
rings, and wherein the annular interface is formed in the inner ring.

4. The method of claim 1, wherein including the steps of centering the seal  
20 member in a collet and urging the bearing ring into the seal member to close the collet  
around the seal member.

5. The method of claim 4, wherein the collet includes a plurality of flexible  
fingers each terminating in a crimping head, and wherein the collet is disposed to undergo  
25 elastic deformation of the flexible fingers as the portion of the seal member is crimped into  
the annular groove.

6. The method of claim 1, wherein the seal member includes a flinger.

7. The method of claim 1, wherein the seal member includes an annular support ring and an elastomeric seal supported on the support ring, and wherein the portion of the seal member deformed in the crimping step is part of the support ring.

5 8. A method for installing a seal on a bearing assembly, the method comprising:

forming a first interface surface in an inner bearing ring and a second interface surface in an outer bearing ring;

crimping a first seal member to the first interface surface of the inner ring;

10 crimping a second seal member to the second interface surface of the outer ring; and

assembling the bearing assembly such that the first and second seal members cooperate with one another to seal at least a portion of the bearing assembly.

15 9. The method of claim 8, wherein the first interface surface includes an annular groove.

10 10. The method of claim 8, wherein the second interface surface includes an annular groove.

20 11. The method of claim 8, wherein at least one of the first and second seal members includes an elastomeric seal configured to contact the other seal member.

25 12. The method of claim 8, wherein at least one of the first and second seal members includes an elastomeric seal configured to contact an element of a rotational system within which the bearing assembly is placed.

13. The method of claim 8, wherein each of the crimping steps includes the steps of centering the respective seal member in a respective collet and urging the respective bearing ring into the seal member to close the collet around the seal member.

14. The method of claim 13, wherein each of the collets includes a plurality of flexible fingers each terminating in a crimping head, and wherein the collet is disposed to undergo elastic deformation of the flexible fingers as the portion of the respective seal member is crimped to the respective interface surface.

15. A method for sealing a bearing assembly, the method comprising:  
forming a first interface surface in an inner bearing ring and a second interface surface in an outer bearing ring;  
crimping a first seal member to the first interface surface of the inner ring;  
crimping a second seal member to the second interface surface of the outer ring; and  
assembling the bearing assembly such that the first and second seal members cooperate with one another to seal at least a portion of the bearing assembly;  
wherein at least one of the first and second seal members includes an elastomeric seal configured to contact the other seal member when the bearing assembly is placed in service.

16. The method of claim 15, wherein the elastomeric seal is supported a support ring of the second seal member.

17. The method of claim 16, wherein a portion of the elastomeric seal is configured to contact an element of a rotating system when the bearing assembly is placed in service.

18. The method of claim 15, wherein the first interface surface includes an annular groove.

19. The method of claim 15, wherein the second interface surface includes an annular groove.

20. The method of claim 15, wherein the first seal member is crimped to the inner ring by urging the inner ring into engagement with the first seal member to force a first flexible collet to compress around the first seal member.

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21. The method of claim 15, wherein the second seal member is crimped to the outer ring by urging the outer ring into engagement with the second seal member to force a second flexible collet to compress around the second seal member.

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22. A bearing assembly comprising:  
an inner ring;  
an outer ring;  
a plurality of bearing elements disposed between the inner and outer rings; and  
an inner ring seal member crimped to the inner ring.

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23. The bearing assembly of claim 22, wherein the inner ring seal member is crimped to an annular groove formed in an outer surface of the inner ring.

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24. The bearing assembly of claim 22, further comprising an outer ring seal member crimped to the outer ring.

25. The bearing assembly of claim 24, wherein the inner ring seal member and the outer ring seal member lie in mutually facing relation in the bearing assembly.

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26. The bearing assembly of claim 25, wherein an elastomeric seal extends between the inner ring seal member and the outer ring seal member.

27. A bearing assembly comprising:  
an inner ring;

an outer ring;  
a plurality of bearing elements disposed between the inner and outer rings; and  
an outer ring seal member crimped to the outer ring.

5           28.     The bearing assembly of claim 27, wherein the outer ring seal member is  
crimped to an annular groove formed in an outer surface of the outer ring.

          29.     The bearing assembly of claim 27, further comprising an inner ring seal  
member crimped to the inner ring.

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          30.     The bearing assembly of claim 29, wherein the outer ring seal member and  
the inner ring seal member lie in mutually facing relation in the bearing assembly.

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15           31.     The bearing assembly of claim 29, wherein an elastomeric seal extends  
between the inner ring seal member and the outer ring seal member.

          32.     A bearing assembly comprising:  
an inner ring;  
an outer ring;  
20     a plurality of bearing elements disposed between the inner and outer rings;  
an outer ring seal member crimped to the outer ring; and  
an inner ring seal member crimped to the inner ring.

25           33.     The bearing assembly of claim 32, wherein the inner ring seal member and  
the outer ring seal member lie in mutually facing relation in the bearing assembly.

          34.     The bearing assembly of claim 32, further comprising an elastomeric seal  
extending between the inner ring seal member and the outer ring seal member.

35. The bearing assembly of claim 34, wherein the elastomeric seal member is secured to the inner ring seal member.

5 36. The bearing assembly of claim 32, wherein the inner ring seal member is crimped to an annular groove formed in an outer surface of the inner ring.

37. The bearing assembly of claim 32, wherein the outer ring seal member is crimped to an annular groove formed in an outer surface of the outer ring.

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